MONTHLY REPORT

[redacted]

25X1

PAR 224

22 Jan 65

SUBJECT: 3 - 15X Fluid Gate Enlarger

TASK/PROBLEM

1. Develop and fabricate an enlarger having continuously variable magnification from 3 to 15X for 70mm negative gate size. Print sizes to range 40 x 40 inches on cut sheet stock.

DISCUSSION

2. Our effort in this period was to continue design and fabrication of a breadboard system which will provide engineering data for this project and also for PAR 202. The accomplishments during the period have been:

a. Vacuum Platen Carriage: Rough castings for the platen and carriage have been received. Parts are being fabricated for the platen drive and position indicator.

b. Main Frame: Design and detail drawings for the lower frame and optical frame are complete. Quotations have been requested for fabrication outside the contractor's shops.

c. Lamphouse: The lamphouse design is approximately 70 percent complete. Detail drawings have not been made. In order to facilitate changing the condenser lens to be compatible with the objective lens being used, the lamphouse is being designed so that interchange of assemblies, containing the condenser lens assembly, the lamp and the lighttight enclosure, can be readily accomplished.

d. Objective Focus Assemblies: These assemblies are being designed to focus the lens with a "tensioned-thread" system as used in the 10-20-40X Precision Enlarger. Lens focus position is indicated by a four-dial digital counter. Coupling of the counter to the focus motion is matched to the focal sensitivity of each lens such that the "depth-of-focus" is represented by two to five counts. Lens assemblies including mechanism and platen plates will be interchangeable. The design of these assemblies is about 70 percent complete. No detail drawings have been made.

e. Objective Lenses: The lens designers have confirmed that combination designs for color and black-and-white are possible for all of the required lenses except the 40X to 60X lens for the Briefing Print Enlarger, PAR 202. Formula sheets (optical designs) have been released for mount design and sample fabrication for all but one of the required seven (7) lenses in PAR 202 and PAR 224.

f. Negative Transport Model: Assembly of the X-Y coordinate indicators upon the negative transport model is progressing.

g. Lens Focus Setting and Magnification Table: The computer program to calculate the values for the Focus/Magnification Table has been rewritten to make use of E.F. and front-focal-point to rear-focal-point separation from visual lens bench measurements in addition to the photographic focus calibration measurements on the enlarger. This program was run successfully with hypothetical data and sample tables were generated for use by the designers. No further work with the program is planned until the breadboard enlarger and sample lenses are available to provide actual calibration data.

PLANNED ACTIVITY

3. Effort in the next period will be to:

a. Continue breadboard design and detail drawing effort and release completed components and assemblies for fabrication.

b. Begin breadboard electrical control circuit design as required for the breadboard enlarger.

c. Make the final release for sample fabrication of the objective lenses.